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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,278	11/25/2003	Alain Poiraud	2937-115	4789

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EXAMINER

VASUDEVA, AJAY

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



Office Action Summary

Application No.

10/720,278

Applicant(s)

POIRAUD, ALAIN

Examiner

Ajay Vasudeva

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The listing of references **EP-B-0 840 691** and **FR-A-2 820 108** in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. Further, a legible copy of each cited foreign patent document must be provided for a compliance with 37 CFR 1.98(a)(2).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following must be shown or the feature(s) canceled from the claim(s).

- A bottom line of the fluke, as set forth in claims 7 and 8 (emphasis provided).

No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "**Replacement Sheet**" or "**New Sheet**" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

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informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Appropriate section headings are missing in the Specification. The following section headings may be provided in the specification:

- a. Title of the Invention.
- b. Background of the Invention.
 - Field of the Invention.
 - Description of the Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- c. Brief Summary of the Invention.
- d. Brief Description of the Several Views of the Drawing(s).
- e. Detailed Description of the Invention.

Appropriate section headings, as above, are recommended.

4. The use of the trademark BÜGEL has been noted in this application (page 1, line 10 and line 12). It should be capitalized wherever it appears and be accompanied by the generic terminology. Alternatively, a proper trademark symbol, such as TM or ® should be included following the word.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks. See MPEP 608.01(v) for further guidance on use of trademarks or trade names.

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5. The disclosure is objected to because of the following informalities:

(a) The following typographical errors should be corrected:

- On page 5 (line 38), after "from the center of", "**masse**" should be changed to – **mass** --.
- On page 6 (line 15), before "the bow shackle", "**trough**" should be changed to – **through** --.

(b) All occurrences of the following spellings should be changed to conform to the spelling used in the standard US English.

- Change "**centre**" to – **center** --.

(c) In the abstract (page 10),

- change the heading from "**ABRÉGÉ**" to – **ABSTRACT** --.
- On line 11, delete "**Figure 1**"

Appropriate correction is required.

Claim Objections

6. Claims 1, 3, 7 and 8 are objected to because of the following informalities:

- In claim 1 (line 4), "**fluike**" should be changed to – **fluke** – to correct a typographical error.
- In claim 3, 7 and 8, change "**centre**" to – **center** --.
- In claim 7 (line 2), "**form**" should be changed to – **from** – to correct a typographical error.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 2, 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 7 and 8 are considered indefinite because they use a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim), and therefore fail to clearly set forth the metes and bounds of the patent protection desired.

Note the explanation given by the Board of Patent Appeals and Interferences in Ex parte Wu, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of Ex parte Steigewald, 131 USPQ 74 (Bd. App. 1961); Ex parte Hall, 83 USPQ 38 (Bd. App. 1948); and Ex parte Hasche, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 2 recites the broad recitation "**the weight of the anchor is higher than 80 cm²/kg**", and the claim also recites "**and preferably higher than 100 cm²/kg**" which is the narrower statement of the range/limitation.

Additionally, claim 7 recites the broad recitation "**the angle between a bottom line of the fluke and a line from the geometric center of the fluke to the opening is from 30 to 38 degrees**", and the claim also recites "**and preferably about 34 degrees**" which is the narrower statement of the range/limitation.

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Similarly, claim 8 recites the broad recitation "the angle between a bottom line of the fluke and a line from the geometric center of the fluke to the second opening is from 40 to 50 degrees", and the claim also recites "and preferably about 45 degrees" which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

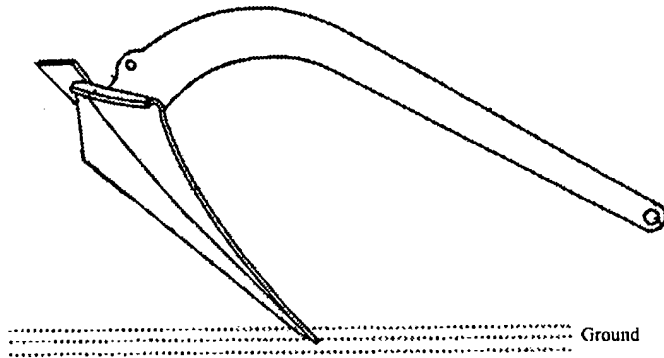
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 5, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Goodman (US 6,390,011 B1).

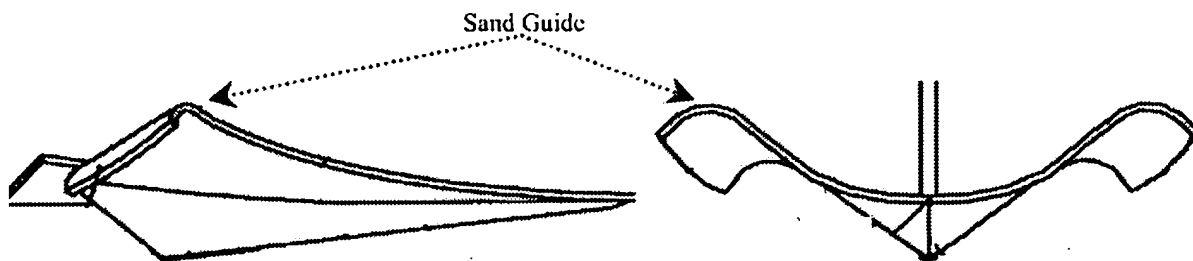
Re claim 1, Goodman shows a boat anchor [10] (figures 1 and 2), having a fluke [15,16] with a tip [17] and a back with a curved rear edge [18], and a shank [11] mounted on the fluke. The shank has a curved edge, and an opening [14] at an end opposite the fluke. The opening is offset from a plane tangent to the back edge of the fluke and to the edge of the shank. When considered in a side elevation view (see fig. 2), the anchor is considered asymmetric with respect to a horizontal plane passing the shank.

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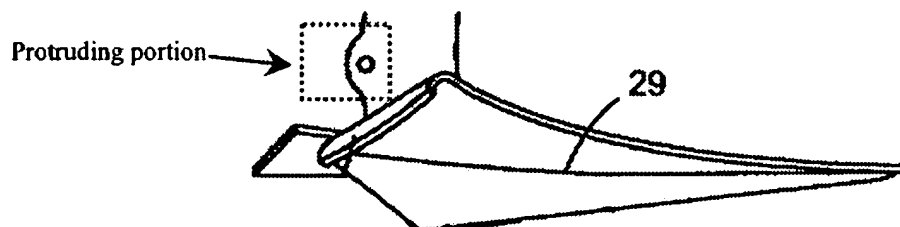
Re claim 5, if the anchor is tipped in an orientation shown below, most of the weight of the anchor will be borne by the tip of the anchor. In such orientation, the proportion of the weight of the anchor on the tip would higher than 20%.



Re claim 9, the sloped upper surface of the back upper side is considered equivalent to a sand guide because when the anchor is dragged through the sand, the sloped surface would allow the sand to be guided over and behind the anchor.



Re claim 10, the shank has a protruding portion at a lower part of the back edge, which is considered a lower edge of the shank.



11. Claims 1 and 4 are rejected under 35 U.S.C. 102(a) as being anticipated by FR 2820108 ('108). (*See the attached English translation*).

Re claim 1, FR ('108) shows a boat anchor (figures 1 and 2), having a fluke [2] with a tip [6] and a back with a curved rear edge, and a shank [1] mounted on the fluke. The shank has a curved edge, and an opening [3] at an end opposite the fluke. The opening is offset from a plane tangent to the back edge of the fluke and to the edge of the shank.

Regarding the limitation "unballasted fluke" of the claim (line 2), applicant's disclosure has not specifically defined as to what can, or cannot, be considered a ballast. Therefore, the limitation "ballast" has been broadly interpreted to mean any such weight that may be detachably attached to an anchor fluke to further increase the original weight of the fluke. In the present case, there is no provision of an external or detachably attached weight with the fluke. Further, the thickened front portion of the fluke is integral with the rest of the fluke (see fig. 2), and therefore, the fluke of FR ('108) is considered an unballasted fluke.

Re claim 4, the shank is mounted on the half portion of the fluke that is near to the tip than to the back edge of the fluke.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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13. Claims 2, 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodman (US 6,390,011 B1).

Goodman shows an anchor, as above, disclosing all limitations of claim 1.

Re claim 2, applicant has set forth a ratio by reciting "the ratio of the surface of the fluke to the weight of the anchor is higher than 80 cm²/kg".

Goodman has not disclosed any specific ratio of the surface area with respect to the weight of the anchor.

However, it would have been an obvious design choice for one skilled in the art at the time of the invention to provide the fluke with a sufficiently large surface area, which would have maximized the area of contact when embedded in the ground, thereby increasing the drag resistance of the anchor. Additionally, it would also have been obvious for one skilled in the art at the time of the invention to design the anchor weight at a sufficiently low to moderate level so that one could easily handle the anchor without requiring extreme physical effort. Keeping the desirability of large surface area and low weight in view, it would have been well within the realm of engineering design optimization for one to construct an anchor wherein the ratio of the fluke surface to the anchor weight was higher than 80 cm²/kg. (*Additionally, see "Examiner's Note" below*).

Re claims 3 and 6, Goodman discloses the fluke as being made of metal sheet (col. 2, line 29 and line 33), which is considered equivalent to a metal plate being claimed in claim 6. The metal plate appears to have a constant thickness (figures 2, 3 and 5).

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However, Goodman (a) does not expressly disclose the metal plate as having a constant thickness (claim 6), and (b) is silent on fluke's center of mass being nearer to the back edge than to the tip of the fluke (claim 3).

Firstly, regarding claim 6, it would have been obvious for one skilled in the art at the time of the invention to use a metal plate of constant thickness for making the fluke Goodman. Using such plate would have allowed one to construct flukes using standard stock material, thereby simplifying and accelerating the manufacturing process.

Further, regarding claim 3, applicant may note that if a metal plate of constant thickness were to be used for making the fluke, the center of mass would be same as the centroid – i.e., the geometric center – of the fluke. If such metal plate were to have a rectangular shape, the centroid would be disposed at a middle point between the longitudinal ends of the rectangle. However, if such metal plate had the shape of a triangle, the centroid would then shift closer to the base of the triangle than to its apex.

In the present case, it is first noted that the fluke has a triangular, or delta, shape (col. 1, line 36; and line 47). If the triangular fluke of Goodman was made of a metal plate of constant thickness (as described above regarding claim 6), the centroid – and therefore the center of mass – of the triangular fluke would then be disposed nearer to the back edge than to the tip of the fluke, as being claimed in claim 3.

Re claim 7, applicant has set forth an angular relationship by reciting “the angle between a bottom line of the fluke and a line from the geometric center of the fluke to the opening is from 30 to 38 degrees”.

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Goodman shows a shank that is disposed at an acute angle with respect to a bottom line of the fluke. As shown in figure 2, the angle between (a) the bottom line of the fluke and (b) a line from an approximate location of the fluke's geometric center to the fluke opening appears to be in the range of approximately 30 to 38 degrees.

However, Goodman does not expressly disclose such angle as being from 30 to 38 degrees.

It would have been a matter of obvious design optimization for one skilled in the art at the time of the invention to keep the above-discussed angle between 30 to 38 degrees. Having such angle would have enabled the fluke to position within an optimum angle range that was conducive to an effective ground penetration, while also minimizing projection of fluke's surface in a vertical plane, thereby prevent it from being pushed into a vertical orientation due to water pressure. (*Additionally, see "Examiner's Note" below*).

Examiner's Note re claims 2 and 7: Regarding the ratio being claimed in claim 2, Applicant's specification merely indicates that the ratio of the fluke surface to the anchor weight is higher than $80 \text{ cm}^2/\text{kg}$ (page 2, lines 7-8; and page 3, lines 13-14). Regarding the angular relationship being claimed in claim 7, Applicant's specification only states that the discussed angle between the bottom line of the fluke and a line from an approximate location of the fluke's geometric center to the fluke opening is within the range of 30 to 38 degrees (page 2, lines 14-15; and page 6, lines 4-6).

However, nothing in Applicant's disclosure indicates that a ratio other than "higher than $80 \text{ cm}^2/\text{kg}$ ", or an angle other than "from 30 to 38 degrees" would be inoperative, not solve any particular problem, or not produce the unexpected results. As such, the claimed ratio or the angular relationship is considered arbitrary, and therefore obvious. Where patentability is based

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upon particular chosen dimensions, ratios or angular relationships recited in the claims, the applicant must show that such are critical. In the present case, the applicant disclosure has simply not shown the chosen ratio or the angular relationship as being critical, which therefore does not serve in any way to patentably distinguish the claimed invention from the prior art.

14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goodman (US 6,390,011 B1) in view of Peabody (US 5,806,456 A).

Goodman shows an anchor, as above, disclosing all limitations of claim 1.

However, Goodman is silent on the provision of a second opening, or the angle between the bottom line of the fluke and a line from the fluke's geometric center to the second opening as being from 40 to 50 degrees.

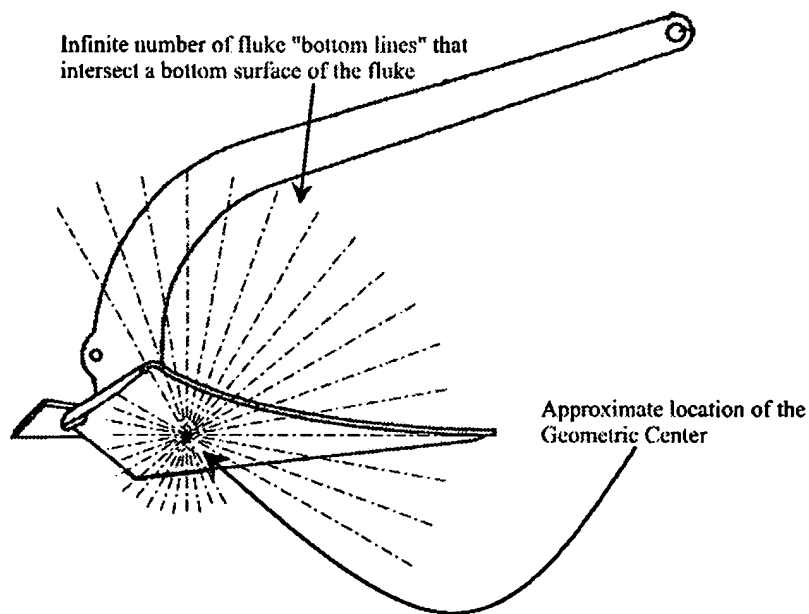
Peabody ('456) shows an anchor having second openings [18B, 18C] in proximity to a first opening [18A] of an arcuate shank (fig. 3). The second openings allow for a variation in the fluke's effective angle of attack, thereby enabling the most effective anchor penetration (fig. 3, and col. 1, lines 8-10, lines 18-24; and col. 2, lines 4-8).

It would have been obvious for one skilled in the art at the time of the invention to provide second openings in the shank of Goodman, as taught by Peabody, such that the second openings were disposed in proximity to the first opening. Having such second openings would have allowed one to vary the fluke's effective angle of attack, thereby allowing the anchor to be used effectively in different types of marine beds.

Regarding the angular relationship of the second openings, it is first noted that applicant's disclosure has not clearly defined the limitation "bottom line of the fluke" with a

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reasonable clarity, deliberateness or precision. The "bottom line" of the fluke has been described as a "horizontal" only as an exemplification (page 6, lines 3-4), which is not an explicit definition. In the present case, the limitation "bottom line of the fluke" has been broadly interpreted to mean any such line that intersects a bottom surface of the fluke. Such interpretation essentially amounts to an infinite number of lines that fit the criterion of the "bottom line".



Whatever may be the exact location of the fluke's geometric center, there will be at least one line that joins such geometric center to the second opening. Further, there will be at least another line (from among the above-discussed infinite number of lines) that would make an angle of 45 degrees with the line joining geometric center and the second opening, thereby meeting the criterion set forth in the claim.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Foreign patents FR ('576), EP ('590), JP ('190), and US patents to Peterson ('423), Poiraud ('219), Oxford ('181), Dick ('717), Bruce ('506), and Kershner ('055) show anchor flukes with curved rear edges, and arcuate shanks mounted on the flukes.
- Granger (US 4,523,539 A) shows a boat anchor having protruding portion.
- McCarron et al. ('967) – fig. 5, Colin ('938), and Klaren ('044) show second openings on the anchor shanks.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ajay Vasudeva whose telephone number is (703) 306-5992. The examiner can normally be reached on Monday-Friday 1:00 pm--5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S. Joe Morano can be reached on (703) 308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AV

Ajay Vasudeva
Examiner
Art Unit 3617

Ajay Vasudeva 3/6/05
AJAY VASUDEVA
PATENT EXAMINER
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